Washington State Department of Agriculture | PLANT PROTECTION DIVISION PEST PROGRAM

HORNET HERALD 21.08 – OCTOBER 5, 2021

NEW DETECTIONS - SEPTEMBER 2021

WSDA received and confirmed two public reports on September 8th. A resident was able to capture a hornet, which WSDA subsequently tagged and released. The team successfully tracked the signal to locate the second nest of 2021 on September 9th.

On September 10th a hornet was captured in a WSDA live trap. This hornet was tagged and released, and WSDA and USDA staff tracked that hornet to the third nest of 2021 a few hours later.

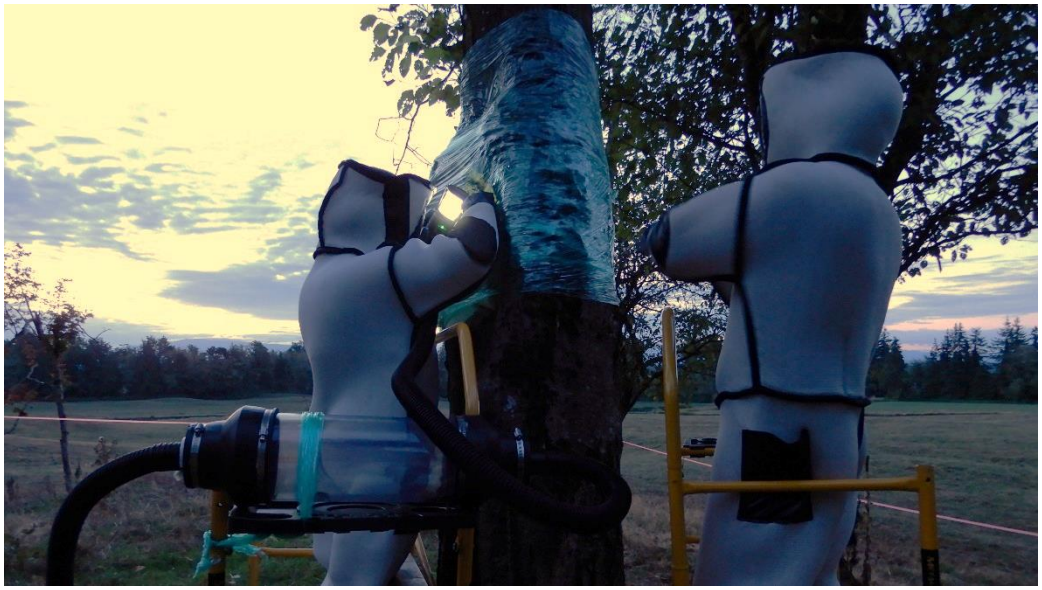
Dead hornets were recovered from WSDA traps on September 9th, 10th, and 18th, all within the same area of the located nests.

WSDA has not confirmed further public reports, but did receive a concerning report on September 6th from a location much further east near Mt. Sumas. This report cannot be positively identified, but does have size, colors, and shapes consistent with Asian giant hornet. We ask the public to keep their eyes open, phones handy, and report any additional sightings to us at agr.wa.gov/hornets.

2ND AND 3RD NEST OF 2021 ERADICATED

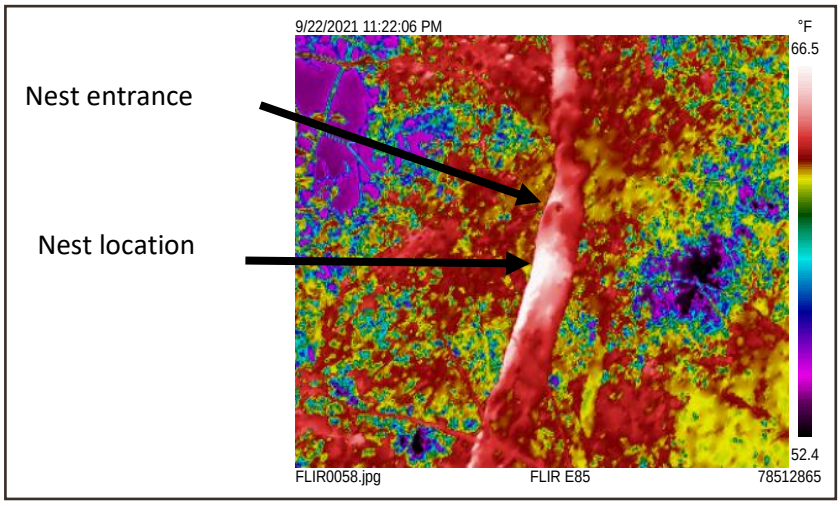
NEST 2 OF 2021

The second Asian giant hornet nest of 2021 was inside a dead alder tree, with the nest entrance about 7 feet off the ground. The actual nest was located three feet above the entrance in the hollow interior of the tree. WSDA's eradication team began work at dawn, using a modified vacuum to draw out any live adult hornets. The nest entrance was then sealed off, the tree was removed, and the cavity opened to expose the nest. The colony revealed four combs containing approximately 418 cells: 47 of which were empty, 91 containing eggs, 101 with larvae, and 179 capped cells. The team was also successful in removing 49 workers, 28 males, and one queen.



NEST 3 OF 2021

The third Asian giant hornet nest located in 2021 required extra preparation prior to removal. The nest entrance was 15 feet high in an even taller snagged alder. The colony inside was very active. Guard hornets were visible at the entrance, and workers were busily foraging for food and nest materials.



The team needed to be able to reach the tall nest entrance, and a skilled sawyer from Washington State Department of Natural Resources (DNR) was contacted to remove the tall dead alder.

Eradication began the morning September 23rd. WSDA used a boom lift to reach the nest entrance, extracting the adult hornets with a modified vacuum

and plugging the nest entrance. After hornet extraction, the dead snag was dropped safely by DNR Baker District Trail Steward Dan DeVoe. Dan also split open the cavity to reveal a nest of 10 combs. The actual nest was slightly lower than the entrance, which can be seen in the infrared image below. The combs housed 674 cells: 86 were empty, 128 held eggs, 202 contained larvae, and 561 were capped cells. 185 workers, 0 males, and 1 queen were also extracted. This is the fourth nest removed from Washington. Read our blog on the third nest removal.

BEEKEEPING AND VESPA MANDARINIA II WEBINAR, OCTOBER 5TH

Join the Washington State Department of Agriculture, Dr. Samuel Ramsey, and Washington State University to learn about *Vespa mandarinia* and the threat they pose to honey bees. This webinar will showcase Dr. Ramsey's experiences beekeeping with the hornets in their native range. Beekeepers will also hear from Dr. Kelly Kulhanek and learn how to differentiate hive losses from Asian giant hornets versus other reasons. Read more about the event here.

CITIZEN SCIENTIST TRAPPING SHOUT OUT

We wanted to send a quick shout out to say how awesome all the citizen scientist trappers are doing. Together they have put up and monitored over 750 traps this season! It's wonderful to see residents working in partnership to keep this species from establishing.

By hanging a bottle trap, citizens help detect hornets in the area, understand their spread, and possibly even eradicate this pest. We are more than grateful for all their time and effort obtaining supplies, hanging traps, and sorting through specimen collections.

There are 9 weeks left to trap this season, but we're over halfway there! If you're participating, we'd love to see some pictures and showcase your efforts. Let us know how it's going:

- Post in our Asian giant hornet Facebook group with #citizenscientist2021
- Shoot Cassie an email, ccichorz@agr.wa.gov

It's also not too late to place a bottle trap! Residents in Washington are encouraged to monitor for this pest through November. For more information on how to become a citizen scientist and create a bottle trap click here.

A LITTLE DATA COLLECTION

Prior to the last eradication, WSDA entomologist Chris Looney and University of Washington professor Vikram Iyer worked to collect data on foraging behavior and activity during daytime activity. They placed a sensitive microphone (in collaboration with BeeHero) at the opening of the nest. The microphone periodically recorded hornet flight sounds to be used in later analysis.

Vikram and Chris also attached three tags to hornets that were able to record temperature, light, and other parameters to help indicate when the tagged hornets were entering or leaving the nest. These data points are still being analyzed, but preliminary results indicate discrete activity periods that start at about morning twilight, and end not long after sunset

Last Chris and WSDA trapper Ryan Gelwicks also spent three hours netting 71 hornets returning from foraging trips. WSDA captured these hornets to track activity and collect food pellets and nest building materials from the returning workers.

12 workers returned with wood pulp. The pulp is believed to be used for constructing more nest combs. 17 workers returned with a food pellet which appeared to be adult insect thoraces. The types of insects in the pellets will later be identified using DNA sequencing. (Two other hornets also returned with pellets, but dropped them while being captured.)

BEHIND-THE-SCENES PEEK

We don't talk enough about the behind-the-scenes work that some of our staff do to support this program. Here's a shot of our molecular diagnostics lab staff working on dissecting AGH to extract high molecular weight DNA for full genome sequencing.

This lab also conducts the moecular analysis of hornet feces and food pellets, giving us insight into what the hornets are eating!

UPDATE FROM CANADA

As of September 30, 2021, there are no confirmed AGH findings in British Columbia this year. The B.C. government is increasing efforts to engage the public to report potential sightings.

They plan to continue to monitor traps throughout the area from White Rock to Aldergrove, additionally they are also using protein-based traps as a potential lure for Asian giant hornets this fall season.

STAY CONNECTED

WSDA is dedicated to working with the public and to providing information on Asian giant hornets.

Contact hornets@agr.wa.gov if you are interested in learning more about Asian giant hornets.

- View past news releases, blogs, and Pest Program updates about Asian giant hornet.
- Join the Asian giant hornet Facebook group.
- Join the Pest Program email listserv.
- Follow WSDA on Facebook, Instagram, YouTube, and Twitter.